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Docket No.: AGIL-27,349  
10010107-1  
(PATENT)

## REMARKS

Reconsideration and Allowance are respectfully requested in view of the foregoing amendments and the following remarks.

Claims 1-4, 6-10, and 34-37 are pending in this Application.

Claim 5 has been cancelled without prejudice.

Regarding the 35 U.S.C. § 101 Claim Rejections

Applicant appreciates the Examiner's withdrawal of all previous rejections under 35 U.S.C. § 101.

Regarding the Claim Objections

Claim 5 was objected to under 37 C.F.R. 1.75 (c) for being an improper dependent claim for failing to further limit the subject matter of a previous claim. Applicant has cancelled Claim 5 and respectfully requests that the claim objection be withdrawn.

Regarding the § 103 and § 102 Rejections

Claims 1, 5, 34, 35 and 37 were rejected under 35 U.S.C. § 103 (a) for being rendered obvious by *Kumar* (U.S. Patent No. 5,825,807) in view of *Bar-Zohar* (U.S. Patent No. 4,575,754).

Applicant respectfully points out that § 706.02 (j) of the MPEP holds that there are three necessary elements to establish a *prima facie* case of obviousness as adopted from *In Re Vaeck*. First, there must be some suggestion or motivation, either in the references themselves, or in the knowledge generally available to one of ordinary skill in the art, when the invention was unknown and just before it was made, to modify the reference or combine the reference teachings. *In Re Vaeck*, 947 F.2d 488. Second, there must be a reasonable expectation of

Docket No.: AGIL-27,349  
10010107-1  
(PATENT)

success. Finally, the prior art reference, or references when combined, must teach or suggest all of the claim limitations. The teaching or suggestion to make the claimed combination and their reasonable expectation of success must both be found in the prior art and not be based on the Applicant's disclosure.

MPEP § 2143.01 provides that the mere fact that references can be combined or modified, does not render the resulting combination obvious unless the prior art also suggests the desirability of the combination. *In Re Mills*; 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). Furthermore, obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion, or incentive in the prior art supporting the combination. *ACS Hospital Systems v. Montefiore Hospital*. 732 F.2d 1572-1577, 221 USPQ 929, 933 (Fed. Cir. 1984)

Applicant agrees with the Examiner that *Kumar* does not teach the specific use of scrambling on a group-wise basis. *Kumar* discusses scrambling starting in column 6, line 52 through column 7, line 20. *Kumar* discusses the use of a scrambling polynomial such as one specified by the CCITT V.29 specification. There is no suggestion or motivation provided in *Kumar* to use any other type of scrambler. *Kumar* states in column 7, line 4 that the scrambling function is important because the source message may not be random. Again, Applicant points out that there is no suggestion or motivation in *Kumar* to use anything except a scrambling polynomial to eliminate long runs of consecutive binary ones or zeros and to cause a resulting binary message to have approximately equal probabilities for binary digits zero (0) and one (1). The scrambler of *Kumar* is a continuous scrambler and there is no suggestion or motivation to scramble the data bit stream on a group-wise basis to produce scrambled groups of data provided in *Kumar*.

Docket No.: AGIL-27,349  
10010107-1  
(PATENT)

*Bar-Zohar* teaches a video scrambler system that scrambles a video signal by partitioning the signal into blocks of segments, reversing the sequence of segments in each block, randomly delaying the reversed segments, and reversing the sequence of the randomly delayed segments. There is no discussion in *Bar-Zohar* that suggests or motivates one of ordinary skill in the art at the time the application was filed that the *Bar-Zohar* scrambler could be used to replace a polynomial type scrambler that statistically balances the number of logic low and logic highs in the groups of data. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. Applicant respectfully submits that neither *Kumar* nor *Bar-Zohar* provide any suggestion or motivation to modify either reference's scrambler and combine the teachings.

With respect to a reasonable expectation of success, there is nothing in either reference indicating that one could combine the video scrambler of *Bar-Zohar* into the *Kumar* reference, which is for a much higher frequency spread spectrum communication system. Since the *Bar-Zohar* scrambler does not cause the elimination of long runs of consecutive binary ones and zeros, as necessary in *Kumar* (col 6, line 52 through Col. 7, line 3), there is no expectation of success if the *Bar-Zohar* scrambler is incorporated into *Kumar*. Furthermore, the storing and shifting of the bits via shift-registers for the number of bit-places prescribed in the *Bar-Zohar* reference is a time consuming process that would not functionally work in the *Kumar* reference where a mathematical process is used as the data flows smoothly and with minimal delay through the *Kumar* scrambler.

Finally, the references *Kumar* and *Bar-Zohar*, when combined, do not teach or suggest all the claim limitations. In particular, the *Kumar* reference does not teach scrambling on a group-wise basis and the *Bar-Zohar* reference does not teach or suggest a scrambler that can be used in the *Kumar* reference and scramble a "data bit stream on a group-wise basis."

Docket No.: AGIL-27,349  
10010107-1  
(PATENT)

Regardless, even if all elements of a claim are disclosed in various prior art references, the claimed invention, taken as a whole cannot be said to be obvious without some reason given in the prior art why one of ordinary skill would be prompted to combine the teachings of the references to arrive at the claimed invention. *In Re Regal*, 188 USPQ 132 (CCPA 1975). In fact, the *Bar-Zohar* reference teaches away from the combination because its video scrambler, as emphasized in the *Bar-Zohar* Background, is for replacing an encoder or decoder used with television signals. It is not intended for use along with an ECC encoder. Nothing in *Bar-Zohar* suggests such a combination. Applicant respectfully hereby traverses the 103 rejection and submits that the claims are all in condition for allowance over the cited art because a *prima facia* case of obviousness can not be established from the cited art. Applicant respectfully requests that the § 103 rejection be withdrawn.

Claims 6 through 8 were rejected under 35 U.S.C. § 103 (a) for being rendered obvious by *Adam* (U.S. Patent No. 6,628,725) in view of *Bar-Zohar*.

Again, Applicant respectfully points out that all three necessary elements for establishing a *prima facia* case of obviousness have not and cannot be established using the present cited art. Thus, Applicant respectfully traverses this rejection. In particular, the Examiner continues to misconstrue *Adam*. Applicant urges another close reading of *Adam* wherein Fig. 1 teaches a data stream 102 being provided to an encoder 104. The encoder 104, of Fig. 1, is shown in more detail in Fig. 2 and has a plurality of elements being 202, 204, 206 and 208. The encoder of *Adam*, in Fig. 2, reads the next 6 characters from the data stream at step 202; then at step 204, the encoder performs control character encoding (error-correction-coding) and byte reordering. See *Adam* column 3, lines 44 through 50. Applicant respectfully submits that it is not until after step 204 that *Adam* scrambles the data at step 206. *Adam* clearly teaches and performs a data

Docket No.: AGIL-27,349  
10010107-1  
(PATENT)

encoding function that occurs prior to scrambling the received data from step 202 rather than an encoding function that occurs only after the scrambling of data from an originating source.

Applicant agrees with the Examiner that *Adam* does not explicitly teach the specific use of scrambling on a group-wise basis.

No *prima facia* case of obviousness can be established here because there is no suggestion or motivation in *Adam* or *Bar-Zohar* to modify either reference or to combine the referenced teachings. In particular, there is no teaching in *Adam* to move the step of scrambling the data to a position in front of encoding step 204 so that the scrambling is performed on a data bit stream from an originating source. Furthermore, *Bar-Zohar* is silent with respect to when data should be scrambled with respect to an encoder. Furthermore, there is no teaching, suggestion or motivation in *Bar-Zohar* to use its scrambling technique to replace the scrambling polynomial technique that is discussed in *Adam*. See column 4, lines 10 through 16. Secondly, there is no reasonable expectation of success in combining the scrambler from *Bar-Zohar* with *Adam*. In particular, the *Bar-Zohar* scrambler incorporates data delay and shift register characteristics into its scrambling technique which would not work well within the continuous movement of the data prescribed in *Adam* wherein the data is scrambled continuously by being multiplied with a polynomial. Furthermore, the *Bar-Zohar* scrambler, since it does not use a specific scrambling polynomial, cannot guarantee that the scrambled bits will eliminate long runs of consecutive ones and zeros. Finally, the prior art references, when combined, do not teach or suggest all of the claim limitations. In particular, *Adam* not only does not explicitly teach the specific use of scrambling on a group-wise basis, but also does not teach or motivate scrambling "source encoded" data before error correction encoding. See Fig. 2, elements 204 and 206 of *Adam*. As such, there is no teaching or suggestion to make the claimed combination and there is no reasonable expectation of success found in the prior art. Applicant submits that

Docket No.: AGIL-27,349  
10010107-1  
(PATENT)

hindsight and the applicant's disclosure cannot be used to help find a teaching or suggestion to make the claimed combination from the prior art. Applicant therefore respectfully requests that the § 103 rejection be withdrawn because a *prima facia* case of obviousness cannot be established using the presently cited art.

Claims 7 and 8 were rejected under 35 U.S.C. § 102 (e) based on *Adam*. Applicant respectfully traverses this § 102 rejection. Applicant points out that claims 7 and 8 are dependent upon independent claim 6. Applicant also respectfully points out that the Examiner stated in this pending official action, and Applicant agrees, that "*Adam* does not explicitly teach the specific use of scrambling on a bit-wise basis." As such, Applicant respectfully submits that *Adam* does not teach all of the elements of claims 7 and 8 and respectfully requests that the § 102 rejection to these claims be withdrawn.

Claims 2 and 36 were rejected under 35 U.S.C. § 103(a) as being rendered obvious by *Kumar* and *Bar-Zohar* in view of *Adam*. Applicant respectfully traverses this rejection along with the remaining § 103 rejections, including the rejections that include *Kimmitt* (U.S. Patent No. 6,738,935), because a *prima facia* case of obviousness can not be established using the present cited art.

With respect to the *Kimmitt* reference, *Kimmitt* specifically teaches scrambling after encoding. See Fig. 3 wherein the data ECC encoder elements 52 and 53 encode the data prior to the data being provided to the transmit scrambler 54. See also related text in *Kimmitt*. As discussed above, there is no suggestion or motivation in any of the references (including *Kimmitt*), either by themselves or in combination, to use the type of scrambler taught in *Bar-Zohar* prior to encoding data. Furthermore, there is no reasonable expectation of success, which as been thoroughly discussed above. Furthermore, only the prior art and not the Applicant's disclosure must include the teaching or suggestion to make the claimed combination along with

Docket No.: AGIL-27,349  
10010107-1  
(PATENT)

their reasonable expectation of success. Applicant respectfully reminds the Examiner that obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion, or incentive supporting the combination. In fact, *Bar-Zohar* teaches away from the combination because its video scrambler, as discussed in the background of the invention, is for replacing the encoder or decoder used with television signals. As such *Bar-Zohar* teaches away from the use of the scrambler along with an ECC device because the *Bar-Zohar* scrambler is to be used without any type of encoder. Applicant respectfully submits that no *prima facie* case of obviousness can be presented using any combination of the cited art and that the § 103 rejections should be withdrawn.

Applicant respectfully believes that all outstanding grounds raised by the Examiner have been addressed; and thus submits the present case is in condition for allowance, the early notification of which is earnestly solicited.

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Respectfully submitted,

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